Wednesday, 12/13/2006 2:47:22 PM

Kim Johnston

Process Sheet

Customer

: CU-DAR001 Dart Helicopters Services

Job Number **Estimate Number** : 29932

:(11920

P.O. Number

:NIA

This Issue

: 12/13/2006

Prsht Rev. : NC

First Issue Previous Run

: MA : NIA

S.O. No. : NIA

Type

: SMALL /MED FAB

Checked & Approved By

Comment

Written By

: Est

00.01.12 Re-format EC **Drawing Name**

: TUBE ASSEMBLY

Part Number

Drawing Number Project Number : D2003039

· HADER REVIEW (B 06.12.13

: N/A

SEE NOTE ON DWG

Drawing Revision

: NIA

Material **Due Date**

: 5/10/2007

Batch: 1102958.

m10 2748

Qty:

5 Um:

Each

Additional Product

Job Number:



Seq. #:

1.0

Machine Or Operation:

Description:

M304TR0500W035

304 RD Tube .500 x .035W

Comment: Qty.:

2.9750 f(s)/Unit Total: 14.8748 f(s)

304 RD Tube .500 x .035W

Cut as per template D2003-039 (34.00" long)

Material:1/2"Æ x 0.035" wall AISI 304 SS tubing

Cut: 34.0" long as per Dwg D2003

Material: M2650-6 Heat sleeve

Batch: M

m103232 x4

M103097x1

2.0

M26506

Firesleeve-crkl .375IDia



Comment: Qty.:

2.8300 f(s)/Unit

Total:

14.1500 f(s)

M103097

m103232

WF. 07-

3.0

MS208198J

Comment: Qty.: 2.0000 Each(s)/Unit

Firesleeve-crkl .375IDia

Total: 10.0000 Each(s)

Pick

Qty Part Number Desc

Batch:

MS20819-8J Sleeve M101189

4.0

AN8188J





Comment: Qty.:

2.0000 Each(s)/Unit

Total:

10.0000 Each(s)

Pick

Qty Part Number Desc Batch:

2 AN818-8J

Nut MIOII &

MF. 07.01.17

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | | | | | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|--|--|--|--|--|--|--|
| DATE | STEP | PROCEDURE CHANGE | Ву | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector | | | | | | | | |
| | | | 1 | | | | | | | | | | | | |
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| Part No: | PAR #: | Fault Category: | NCR: Yes No DQA: DQA | Date: <u>0구/0/ //</u> |
|----------|--------|-----------------|----------------------|-----------------------|
| | | | QA: N/C Closed: | Date: |

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | | | | | | | |
|------|------|----------------------------------|----------------------|------------------------------|----------------|------------------|----------|--------------------------|--|--|--|--|--|--|
| | | Description of NC | | Corrective Action Section B | Verification | Approval | Approval | | | | | | | |
| DATE | STEP | Section A | Initial Chief Eng | Action Description Chief Eng | Sign & Date | Sign & Section C | | Approval QC Inspector | | | | | | |
| | | • | | • | | | | | | | | | | |
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NOTE: Date & initial all entries

Date: Wednesday, 12/13/2006 2:47:23 PM User: Kim Johnston **Process Sheet** Drawing Name: TUBE ASSEMBLY Customer: CU-DAR001 Dart Helicopters Services Job Number: 29932 Part Number: D2003039 Job Number: Seq. #: Description: **Machine Or Operation:** 5.0 D2182 Heat Shrink Comment: Qty.: 0.3750 f(s)/Unit Total: 1.8750 f(s) Heat Shrink 1" x 4.5" Pick: Qty Part Number Description Batch 13 26009 D2182-045 Heat shrink SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1 6.0 Comment: SMALL & MEDIUM FAB RESOURCE 1 Form tube as per template D2003-039 Assemble as per Dwg D2003 07-01-17 INSPECT WORK TO CURRENT STEP 7.0 QC5 Comment: INSPECT WORK TO CURRENT STEP PACKAGING 1 PACKAGING RESOURCE #1 8.0 Comment: PACKAGING RESOURCE #1 Identify and Stock Location: 5+ 200 9.0 QC21 Comment: FINAL INSPECTION/W/O RELEASE Job Completion C207/01/19

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | | | | | | | | | | |
|---------|------|------------------------|----|--------|--------|-------------------------------|--------------------------|--|--|--|--|--|--|--|--|--|
| DATE | STEP | PROCEDURE CHANGE | Ву | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC inspector | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Part No | • | PAR #: Fault Category: | NC | R: Yes | No DQA | \. <u>.</u> | Date: | | | | | | | | | |

| Part No: _ | PAR #: | Fault Category: | NCR: Yes No | DQA: | Date: |
|------------|--------|-----------------|-------------|---------|-------|
| | | | QA: N/C | Closed: | Date: |

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | | | | | | |
|------|------|----------------------------------|----------------------|------------------------------|----------------------|--------------|-----------------------|--------------------------|--|--|--|--|--|
| | | Description of NC | | Corrective Action Section B | | Verification | Anneval | Annroval | | | | | |
| DATE | STEP | Section A | Initial Chief Eng | Action Description Chief Eng | ption Sign & Date | | Approval Chief Eng | Approval QC Inspector | | | | | |
| | | | | | | | | | | | | | |
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NOTE: Date & initial all entries





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|-----------------|-------|----------|--|--|--|--|--|--|
| DESIGN DRAWN BY | | | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | | | | | |
| CHEC | (EØ) | APPROVED | DRAWING NO. REV. B | | | | | |
| 1 | 45 | 1 4/7 | D2003 SHEET 1 0F 2 | | | | | |
| DATE | / | <u></u> | TITLE SCALE | | | | | |
| 99.0 | 06.08 | | 206 CABIN HEATER TUBE ASSEMBLIES NTS | | | | | |
| Α | | 90.04.09 | NEW ISSUE | | | | | |
| В | | 99.06.08 | UPDATE PER TEMPLATES; ADD P/N'S; 0.025 TUBING NOW 0.035 (TSR1049) | | | | | |

NOTE: FLAT LENGTHS MAYBE UNDER REVIEW

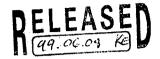
 $\mathcal{C}\mathcal{B}$ Jents wions SHOP COPY RETURNTO

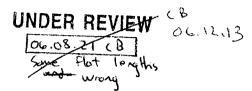
| in corr | ECT FLAT | | | SLEEVE | Į. | SLEEVE | 11 | SLEEVE | 11 | | SUBJECT | OLLED COT TO AMENDMEN OUT NOTICE |
|------------------------|-----------|----------------------|------------------------------------|------------|--------------|-------------------|--------------|-------------------|--------------|------------|----------------------------|--|
| , | | HEATSLEEVE LENGTH | CUT LENGTH OF TUBE ² | MS20819-8J | AN818-8J NUT | MS20819-8D SLEEVE | AN818-8D NUT | MS20819-6D SLEEVE | AN818-6D NUT | | WO Z | VENDOR OR |
| P/N | TEMPLATE | 出品 | ರ೦ | Σ | A | Σ | Y | Σ | 4 | DESC. | MATERIAL 4/8/7 | SPEC |
| D2003-001 | T2003-001 | 5.2 | 6.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-001 | T2003-003 | 7.3 | 8.12 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | VW-T-700/ |
| D2003-005 | T2003-005 | 9.8 | 10.62 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-003 | T2003-007 | 20.0 | 19.63 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-007 | T2003-009 | 12.38 | 12.44 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-009 | T2003-009 | 33.31 | 32.38 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-017 | T2003-013 | 12.7 | 13.54 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-015 D2003-015 | T2003-015 | 17.2 | 18.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-013 | T2003-017 | 17.0 | 16.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-017 | T2003-019 | 9.8 | 10.62 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/ |
| D2003-019 D2003-021 | T2003-021 | N/A | 2.25 | | | 2 | 2 | | | TUBE ASS'Y | 6051-T6 0.500 OD x 0.035 W | WW-T-700/ |
| D2003-021 | T2003-023 | 4.5 | 5.33 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/ |
| D2003-025 | T2003-025 | 9.8 | 10.60 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/ |
| D2003-025 D2003-027 | T2003-027 | 7.25 | 7.38 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/ |
| D2003-029 | T2003-029 | 17.2 | 18,00 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/ |
| 02003-023 | T2003-031 | 14.6 | 15.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-031 | T2003-033 | 29.75 | 29.62 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-035 | T2003-035 | 24.7 | 27.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-037 | T2003-037 | 24.81 | 23.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-037 | T2003-039 | 34.0 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-041 | T2003-041 | 6.0 | 5.88 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-041 | T2003-043 | 11.7 | 10.75 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-045 | T2003-045 | 3.50 | 2.44 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-047 | T2003-047 | 5.56 | 5.56 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-049 | T2003-049 | 33.2 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 30 |
| D2003-043 | T2003-077 | N/A | 6.25 | | | | | 1 | 1 | JET | 6061-T6 0.375 OD x 0.035 W | WW-T-700/ |
| D2003-101 | T2003-101 | 13.25 | 13,13 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600 |
| D2003-101 | T2003-103 | 12.38 | 12.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600 |
| D2003-105 | T2003-105 | 10.75 | 10.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600 |
| D2003-107 | T2003-107 | 12.75 | 12.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | |
| D2003-109 | T2003-109 | 8.25 | 8.125 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600 |
| D2003-111 | T2003-111 | 4.75 | 4.625 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600 |
| D2003-116 | T2003-116 | 4.0 | | | | | | | | HEATSLEEVE | M2650-20 CRINKLE-SOFT | STRATOFLE |
| D2003-120 | T2003-120 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLE |
| D2003-14 | T2003-14 | 4.0 | | | | | | | | HEATSLEEVE | M2650-14 CRINKLE-SOFT | STRATOFLE |
| D2003-16 | T2003-16 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLE |
| D2003-205 | T2003-205 | 9.75 | 9.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700 |
| D2003-207 | T2003-207 | 3.75 | 3.75 | | | l | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | VVVV-1-/UU/ |





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|---|-----------|-------------|-------------------------------------|--------------------|
| | DESIGN | DRAWN BY | DART AEROSPA HAWKESBURY, ONTARIO | CE LTD , canada |
| į | CHECKED . | APARDVED. | DRAWING NO. | REV. B |
| | 1 | | 02003 | SHEET 2 OF 2 |
| | DATE | | TITLE | SCALE |
| | 99.06.08 | | 206 CABIN HEATER TUBE | ASSEMBLIES NTS |





Notes:

- (1) USE STRATOFLEX M2650-6 CRINKLE-SOFT HEATSLEEVE.
- (2) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATES.
- (3) TUBES TO BE FLARED 30° TO MATE WITH FITTINGS MADE TO MS33514.
- (4) ENSURE SEAMLESS TUBING IS USED.
- (5) INSTALL HEATSLEEVE OVER ALL TUBES WITH A DESIGNATED LENGTH OF HEATSLEEVE PER THE PARTS LIST.
- (6) 5052 (WW-T-700/4) TUBING MAY BE SUBSTITUTED WHEN 6061 TUBING IS NOT AVAILABLE.
- (7) 0.049 WALL THICKNESS CRES TUBING MAY BE SUBSTITUTED WHEN 0.035 IS NOT AVAILABLE.
- (8) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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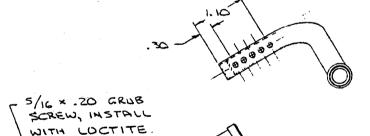
ENGINEERING

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SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER



MS 20819-60 SLEEVE AN BIB-6D NUT OHITTED FOR CLARITY

DETRIL OF - 077